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June 1, 2022

VIA ELECTRONIC FILING

The Honorable Jocelyn G. Boyd
Chief Clerk/Administrator
Public Service Commission of South Carolina
101 Executive Center Drive
Columbia, South Carolina 29210

In Re: Application of Dominion Energy South Carolina, Incorporated for the Approval of New Natural Gas Energy Efficiency Programs and Notice of Intent to Seek Net Lost Revenue under the Natural Gas Rate Stabilization Act (Application Does Not Include a Request for a Rate Increase)
Docket No. 2021-361-G

Dear Ms. Boyd:

On behalf of the South Carolina Coastal Conservation League and Southern Alliance for Clean Energy, please find a *Partial Proposed Order* attached for electronic filing in the above-referenced docket. Please contact me if you have any questions regarding this filing.

Sincerely,

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BEFORE

THE PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2021-361-G

Application of Dominion Energy South Carolina, Incorporated for the Approval of New Natural Gas Energy Efficiency Programs and Notice of Intent to Seek Net Lost Revenue under the Natural Gas Rate Stabilization Act (Application Does Not Include a Request for a Rate Increase)	**PARTIAL PROPOSED ORDER OF THE SOUTH CAROLINA COASTAL CONSERVATION LEAGUE AND SOUTHERN ALLIANCE FOR CLEAN ENERGY**

COME NOW Intervenors the South Carolina Coastal Conservation League ("CCL") and Southern Alliance for Clean Energy ("SACE") (collectively, "CCL/SACE") hereby file this Partial Proposed Order.

I. INTRODUCTION

This matter comes before the Public Service Commission of South Carolina ("Commission") on the Application of Dominion Energy South Carolina, Inc. ("DESC" or "Company") for approval of four new natural gas energy efficiency ("EE") programs and notice of intent to seek net lost revenue recovery under the natural gas rate stabilization act. The Commission's review in this proceeding is governed by S.C. Code Ann. § 58-37-20, § 58-5-400 *et seq*. S.C. Code Ann. Section 58-37-20 permits the Commission to "adopt procedures that encourage electrical utilities and public utilities providing gas services [] to invest in cost-effective energy efficient technologies and energy conservation programs."

The Company filed its Application for the proposed programs on November 23, 2021. DESC's objective in launching the natural gas EE programs is to create a portfolio of cost-effective EE programs for its gas customers so that those customers may access the benefits of the demand side management ("DSM") programs currently available to electric customers. Application at 5, ¶13. The Company now seeks approval of four efficiency programs for its gas customers. Application at 1.

For the reasons set out below, the Commission approves the Company's application in part. While the Commission supports the Company's efforts to expand its EE offerings to gas customers, it appears that the Company's application has failed to fully consider how to maximize customer benefits and in one instance has not employed industry-standard cost-effectiveness testing. Accordingly, the Commission directs the Company to supplement its application with additional analysis and correct the errors identified below in future applications.

A. Notice

By letter dated December 20, 2021, the Clerk's Office instructed DESC to publish by January 11, 2022, a Notice of Filing and Public Hearing ("Notice") in newspapers of general circulation and to provide a certification to the Commission on or before by January 18, 2022, that this notification has been furnished. The Clerk's Office also instructed DESC to furnish the Notice to its customers by February 11, 2022, by U.S. Mail via bill inserts or electronically to its customers who have agreed to receive notice by electronic mail and to provide a certification to the Commission on or before February 18, 2022, that this notification has been furnished. On January 12, 2022, DESC filed affidavits with the Commission demonstrating the Notice was duly published in newspapers of general circulation. On February 15, 2022, DESC filed affidavits showing that notice was timely filed to customers.

B. Intervenors

Petitions to Intervene were received from the South Carolina Department of Consumer Affairs ("DCA") and the South Carolina Coastal Conservation League and Southern Alliance for Clean Energy ("CCL/SACE"). The Petitions to Intervene of DCA and CCL/SACE were not opposed by DESC, and no other parties sought to intervene in this proceeding. The South Carolina Office of Regulatory Staff ("ORS") was automatically made a party pursuant to S.C. Code Ann. § 58-4-10(B).

C. Hearing

The Commission convened a hearing on this matter on May 2, 2022, with the Honorable Justin T. Williams, Chairman, presiding. The Hearing was noticed as a virtual hearing by the Clerk's Notice dated December 20, 2021, but all parties' counsel appeared in person. DESC was represented by K. Chad Burgess, Esquire, Matthew W. Gissendanner, Esquire, Michael Anzelmo, Esquire, and Jason A. Richardson, Esquire. DCA was represented by Roger P. Hall, Esquire, and Connor J. Parker, Esquire. CCL/SACE was represented by Kate Mixson, Esquire, and Emma Clancy, Esquire. ORS was represented by Christopher M. Huber, Esquire, and Nicole M. Hair, Esquire.

At the hearing, DESC presented the direct and rebuttal testimony of Sheryl K. Shelton, James Herndon, and Jaton R. Smith as an in-person witness panel. CCL/SACE presented the direct and surrebuttal testimony of Jim Grevatt, who appeared virtually. DCA presented the direct and surrebuttal testimony of David Dismukes, who appeared virtually. ORS presented the direct testimony of O'Neil O. Morgan, who appeared in-person.

The parties stipulated to the expert qualifications of CCL/SACE Witness Grevatt, DCA Witness Dismukes, and ORS Witness Morgan. CCL/SACE Witness Grevatt was qualified as an expert in "energy efficiency program development and management, including natural gas energy efficiency programs and programs for low-income households." DCA Witness Dismukes was qualified an expert in "utility economics and ratemaking issues, including matters related to energy efficiency program evaluation, cost-benefit and cost-effectiveness analyses, and incentive designs." ORS Witness Morgan was qualified as an expert in "energy efficiency and demand side management program development and implementation."

II. **APPLICABLE LAW**

The Commission must base its decisions on "reliable, probative, and substantial evidence on the whole record." *Porter v. S.C. Public Service Comm'n*, 333 S.C. 12, 21 (1998) (emphasis added). S.C. Code Ann. Section 58-27-2100 further requires

Commission decisions to be presented in a manner that facilitates review, or "in sufficient detail to enable the court on review to determine the controverted questions presented by the proceeding and whether proper weight was given to the evidence."

Relevant to the Company's present Application, S.C. Code Ann. Section 58-37-20 permits the Commission to "adopt procedures that encourage electrical utilities and public utilities providing gas services [] to invest in cost-effective energy efficient technologies and energy conservation programs." Demand side management ("DSM") programs, consisting of "demand side activit[ies]," are defined as "program[s] conducted by an electrical utility or public utility providing gas services for the reduction or more efficient use of energy requirements of the utility or its customers including, but not limited to, utility transmission and distribution system efficiency, customer conservation and efficiency, load management, cogeneration, and renewable energy technologies." S.C. Code Ann. Section 58-37-20. Accordingly, the Commission may approve programs and adopt procedures to encourage the development and implementation of DSM programs for gas or electric utilities.

III. FINDINGS OF FACT

1. Energy efficiency ("EE") programs shall conform with industry standard practice and seek to maximize benefits to customers.
2. It is best practice for dual-fuel utilities, such as DESC, to minimize administrative costs by streamlining offerings for gas and electric customers.
3. Whole home measures, such as duct sealing and insulation, may cost-effectively generate both gas and electric savings, and it is reasonable for the Commission to require that the Company evaluate, as part of any future proposed program, a *joint*

gas-electric program that considers these opportunities to cost-effectively generate dual-fuel savings.

4. It is not reasonable for DESC, as a dual-fuel utility, to provide incentives for gas equipment that may cost its customers more to operate and maintain than if they switched to a high-efficiency electric alternative, such as a heat pump. This is particularly true because DESC's customers with gas equipment are not eligible to participate in DESC's electric EE program which provides rebates for high-efficiency electric HVAC equipment.
5. It is reasonable to require that DESC evaluate, as part of any future gas EE equipment program application, the estimated cost savings from the proposed program compared with estimated cost savings if its customers were to switch from gas to available high-efficiency electric alternatives, such as heat pumps.
6. It is industry standard practice for utilities to use *net* savings to estimate the cost-effectiveness of new programs, and to do so by including in any new program application a defensible estimate of free ridership and other assumptions necessary to calculate an informed net-to-gross ratio.
7. Regarding the Company's proposed programs, the Commission finds that:
    a. DESC's proposed expansion of the EnergyWise Savings store will benefit DESC's customers by cost-effectively helping DESC's gas customers to conserve gas and reduce their bills.
    b. DESC's proposed Neighborhood Energy Efficiency Program ("NEEP") for gas customers will provide low-income neighborhoods with opportunities to conserve gas and reduce bills. Even though the program does not by itself

pass the Total Resource Cost test or Utility Cost Test, the Commission agrees with DESC that it serves the public interest to include this low-income offering in its DSM portfolio, especially given that the gas efficiency portfolio as a whole is cost-effective.

c. It is reasonable to require DESC to supplement its proposed NEEP program application by conducting further analysis of opportunities to cost-effectively implement comprehensive measures in NEEP on a dual-fuel gas and electric basis and to file the results of this analysis with the Commission within 180 days of this Order.

d. DESC's Residential and Commercial Equipment Rebate Programs cannot be approved, as the Company, contrary to industry standard practice, used gross rather than net savings to evaluate these programs' cost-effectiveness. Further, the Commission finds that additional analysis is necessary to determine whether DESC's customers with gas equipment would, as a the whole, save more money by switching to high-efficiency electric equipment, such as heat pumps, versus higher efficiency gas replacements. This analysis is necessary to ensure the Residential and Commercial Equipment Rebate Programs are in the public interest and designed to maximize benefits to DESC's gas customers.

IV. <u>REVIEW OF EVIDENCE AND COMMISSION CONCLUSIONS</u>

A. Proposed Gas Energy Efficiency Programs

<u>Summary of Evidence</u>

DESC Witness Sheryl K. Shelton presented an overview of the Company's Application. Up until this point, DESC has only offered EE/DSM programs to its electric customers. (Tr. at 60:3-5.) In its Application, the Company proposes four new natural gas EE programs, modeled on DESC's electric EE programs, which seek to leverage the Company's existing electric DSM infrastructure to offer natural gas customers savings opportunities currently only available to electric customers. (Tr. at 16.3:13-15, 16.7:14-17, 16.10–16.12.) Specifically, DESC's Application requests Commission approval to:

1) Expand the Company's Residential EnergyWise Savings Store to include product offerings and online discounts for natural gas customers;

2) Expand the Company's Neighborhood Energy Efficiency Program ("NEEP") to accommodate natural gas customers;

3) Create new application(s) to offer Residential High Efficiency Gas Equipment Rebates to natural gas customers; and

4) Create new application(s) to offer Commercial High Efficiency Gas Equipment rebates to natural gas customers.

(Tr. at 16.10–16.12.)

DESC engaged the consulting firm Resource Innovations to develop its proposed gas EE programs. (Tr. at 16.5.) DESC Witness Jim Herndon of Resource Innovations testified that he worked with the Company as part of the design process to evaluate the energy savings, the measure lives, and incremental customer costs of the proposed programs. (Tr. at 26:19-22.) Resource Innovations also conducted a cost-benefit test of the proposed programs at the measure, program, and portfolio level and concluded that, except for the NEEP low-income program, each program and the total portfolio was cost-effective under both the Total Resource Cost ("TRC") and the Utility Cost Test ("UCT"). (Tr. at 16.13:3, 26.22–27.3.)

Residential EnergyWise Savings Store Program

For the EnergyWise Store program, the Company proposes to revise eligibility in the EnergyWise Savings Store to include product offerings allowing online discounts for residential natural gas customers. (Tr. at 16.10:8-12.) To implement this program, the Company will use the existing infrastructure and implementation contractor to expand customer access within the current online store already set up for DESC's electric customers. (Tr. at 16.10:15-20.) Both gas-only DESC customers and customers who purchase gas and electricity from DESC—referred to as "combination" or "dual-fuel" customers—will be able to purchase gas efficiency measures from the new EnergyWise Store. (Tr. at 16.10:12-15.)

CCL/SACE Witness Jim Grevatt recommended that the Commission approve the Company's proposal to expand the EnergyWise Savings Store to include product offerings for residential natural gas customers in addition to offerings currently available to electric customers. (Tr. at 178:3-13.) Witness Grevatt considered it best-practice for dual-fuel utilities, such as DESC, to combine gas and electric programs to streamline communications and participation for customers and noted that using the store's existing infrastructure would minimize the administrative costs of offering the proposed gas-saving measures. *Id.*

Neighborhood Energy Efficiency Program ("NEEP")

The NEEP gas program will offer EE education, an in-home energy assessment, and direct installation of low-cost natural gas efficiency measures delivered via a neighborhood door-to-door sweep approach to DESC's income-qualified gas-only customers. (Tr. at 16.12:14-21.) Currently, NEEP is offered as an electric program and DESC intends to leverage existing NEEP infrastructure to minimize administrative costs for the expansion of this program by simultaneously providing the proposed gas offerings and the electric NEEP offerings using the same implementation contractor. *Id.* DESC Witness Shelton noted that NEEP does not pass the TRC and UCT as a standalone program; however, DESC believes it is important to include low-income programs in its DSM portfolio. (Tr. at 16.13:5-9.)[1]

CCL/SACE Witness Grevatt testified that though he was in strong support of expanding NEEP to gas customers, he was concerned by the fact that the Company had not evaluated whether it would be cost effective to provide dual-fuel saving measures through NEEP. (Tr. at 178:23–179:6.) "Dual-fuel," "combination," or "combo" customers are DESC customers that buy both electric and gas service from DESC, meaning that these customers may have some combination of gas heating and electric cooling or electric plus gas water heating and/or gas appliances. (Tr. at 60:6-17, 141:3-9, 142:24–143:1.) Witness Grevatt highlighted that, for those dual-fuel customers who are "using gas for heat and electricity for cooling, there may be comprehensive opportunities to add insulation, make [the] home more tight, improve the ductwork, the distribution system that brings the cool air in the summer and the hot air in the winter…[t]hat would save both electricity and gas." (Tr. at 189:17-22.)

[1] Low-income programs are commonly exempted from program-level cost-effectiveness testing requirements due to the importance of utilities offering these programs, and the Commission has approved such programs for both DESC and Duke Energy in the past.

Witness Grevatt provided an illustration of the dual-fuel savings benefits that the Company's approach may be missing out on, using attic insulation as an example. If one assumes that attic insulation will cost $1000 and will save $40 per year in reduced electric air conditioning costs, the total benefit over the 20-year life is $800 and, based only on electricity savings, this measure is not cost-effective ($1000-cost > $800-benefit). (Tr. at 185.9:20–185.10:4.) However, if the very same attic insulation also saves gas by reducing heating costs in the winter, and those gas savings will amount to $30 per year for the next 20 years, or $600 total, installing attic insulation will save a total of $1400, which exceeds the installation costs (($1000-cost < $1400[800+600]-benefit). (Tr. at 185.10:7-14.) Thus, it is only by evaluating the electric and gas savings that this measure appears cost-effective; as a result, if the Company looks at only one form of savings it may miss out on a measure such as attic insulation that cost-effectively save both fuels. (Tr. at 185.10:14-18.)

Though the Company has not completed any analyses on the potential benefits and/or cost-effectiveness of a co-funded electric and gas NEEP program, it appears to already recognize the value of sharing costs across both gas and electric EE programs. Specifically, DESC stated in discovery that it has pro-rated costs between gas and electric programs for measures with the potential to produce both electric and gas benefits. (Tr. at 185.9:7-16.) As such, Witness Grevatt noted that the Company acknowledges that it is not reasonable to assign the full costs of a measure to either gas or electricity when it saves both, yet it failed to consider how this understanding could improve program cost effectiveness and expand benefits to its customers. *Id.*

The Company's Home Energy Check-up ("HEC") program, like NEEP, also offers potential for dual-fuel savings benefits. According to Witness Grevatt, the Company's stated rationale for not offering its HEC program to gas customers—that it needed to first ensure that the electric HEC offering is able to achieve cost-effectiveness—actually suggests the Company should investigate whether a *joint* gas-electric program would be more cost-effective for *both* gas and electric customers. (Tr. at 185.8:14–185.9:6.) DESC Witness Shelton confirmed that only electric-only customers are eligible for the air sealing and air insulation measures offered under its HEC program and that the Company had not yet explored whether offering those measures to dual-fuel customers might make the program more cost-effective. (Tr. at 65:4-15.)

Ultimately, Witness Grevatt recommended that the Commission approve the NEEP proposal as filed but direct the Company to conduct further analysis of opportunities to cost-effectively implement comprehensive measures in NEEP on a dual-fuel gas and electric basis and to file the results of this analysis with the Commission in 180 days, along with any proposed expansion of dual-fuel measures and programs. (Tr. at 178:14-22.)

At the hearing, DESC Witness Shelton agreed generally that it was possible if you look at only one part of the savings, like electric savings, that a measure may not appear cost-effective. (Tr. at 64:11-15.) She also confirmed that the Company had not yet investigated whether there are additional opportunities to offer measures through NEEP that save both gas and electricity, even though, if approved, the Company will be offering both gas and electric measures through NEEP for the first time. (Tr. at 66:1-9.)

Nevertheless, Witness Shelton viewed Witness Grevatt's recommendation to conduct further analysis as unreasonable, stating that "fundamentally chang[ing] the Company's proposed offering and measures [] would only delay implementation and add unnecessary complexity to the administration of the program." (Tr. at 22.3:17-19.) Witness

Shelton was also adamant in rebuttal that it would not be workable to offer whole-home dual-savings measures, such as insulation, through NEEP. Witness Shelton stated that adding such measures to NEEP would extend home visits to such an extent that it would reduce customer outreach. (Tr. at 22.4:1-9.) Witness Shelton also highlighted that many low-income homes are not good candidates for whole-home measures without first addressing needed maintenance work to repair structural issues (like broken windows, holes in walls. etc.); for this reason, the Company does not offer insulation and air sealing under the existing NEEP electric program. (Tr. at 22.4:10 –22.5:9.)

In his surrebuttal testimony, Witness Grevatt clarified that his fundamental recommendation remains to approve the NEEP program as filed, which should cause no delay in its implementation. (Tr. at 187.6:13-14.) He reiterated his recommendation for the Commission to direct the Company to conduct further analysis of opportunities to cost-effectively implement comprehensive measures in NEEP on a dual-fuel gas and electric basis. (Tr. at 187.6:14-18.) In response to Commissioner Thomas's questions about whether costs of conducting such an analysis could make a program look less cost-effective, Witness Grevatt explained that though there are some costs associated with "doing assessment of measures that save both gas and electricity, [] if the measures prove out that they are cost-effective, then there are also benefits associated with implementing them, and there are significant benefits for the households that receive those measures." (Tr. at 194:17-24.) He added "I can't think of any situation where I've ever advocated for costs to be incurred and passed on to ratepayers where there wasn't, you know, the promise of some significant benefits involved." (Tr. at 194:25–195:5.)

In response to Witness Shelton's concerns, Witness Grevatt agreed that there are already considerable challenges in providing comprehensive EE programs for low-income households. (Tr. at 187.7:1-12.) However, Witness Grevatt maintained that the fact that low-income households, by necessity, live in substandard housing is not a reason to automatically deny them the potential benefits of dual-fuel measures. Id. Id. . Witness Grevatt's experience running EE programs targeting low-income households, and "personally conduct[ing] hundreds of energy audits for low-income households through [] Vermont Gas' home retrofit programs," taught him that comprehensive energy-efficiency improvements for low-income households are "not easy" but are "doable and the benefits to the households are enormous." (Tr. at 183:9-12, 205:19-23.)

Residential and Commercial Equipment Rebate Programs

Lastly, the Company proposes a high efficiency gas equipment rebate program for its residential and commercial customers. The Residential High Efficiency Gas Equipment program will provide rebates to residential service customers that purchase eligible gas furnaces, gas water heaters, gas tankless water heaters, and gas direct vent fireplaces. (Tr. at 16.11:10-13.) Likewise, the Commercial High Efficiency Gas Equipment program will provide rebates for small to medium-size businesses that invest in high efficiency natural gas equipment, with a focus on space and water heating and commercial cooking equipment. (Tr. at 16.11:21–16.12:4.) DESC Witness Shelton testified that the intent of the program is to incentivize replacement of gas equipment with higher efficiency *gas* equipment. However, both the residential and commercial programs will be offered to all gas—including dual-fuel—customers. (Tr. at 139:2-4.)

CCL/SACE Witness Grevatt identified two significant flaws in the Company's proposed equipment programs. First, Witness Grevatt observed that, contrary to normal industry practice, the Company has based its cost-effectiveness analysis for these programs on gross savings, rather than estimating the "net" savings the program would cause to occur. (Tr. at 179:22 – 180:6.) Witness Grevatt noted, that by using gross savings, and by failing to conduct any market share analysis to estimate the portion of sales that are already for high efficiency equipment, the Company may be counting savings from free riders—those customers who would purchase high efficiency equipment even in the absence of an efficiency program. *Id.* Witness Grevatt found this assumption especially concerning because there are some national indicators suggesting that at least some fraction of the gas furnace sales that take place in South Carolina may be high efficiency even in the absence of utility rebate programs. (Tr. at 180:6-15.) In addition, the Company's cost-effectiveness testing for this program produced TRC test results of only 1.1, suggesting that there is little cushion for the programs to remain cost-effective if net savings are less than gross savings. (Tr. at 180:16-20.) In contrast to ORS's position in Docket Nos. 2021-143-E and 2021-144-E, regarding Duke Energy's proposed Smart $aver Solar as energy-efficiency programs,[2] ORS Witness Morgan took no position on the Company's use of gross savings to estimate the cost-effectiveness of the gas equipment programs and recommended approving the programs. (Tr. at 231:20–232:9, 235–36.)

[2] In those dockets, ORS argued that accurate estimations of free ridership, and thus net savings, were critical to evaluating the cost-effectiveness of Duke's proposed programs. Specifically, ORS argued that Duke Energy underestimated free ridership for its proposed programs and thus the programs were not cost-effective; importantly, and in contrast to DESC's approach here, Duke Energy did provide an estimate of free ridership and net savings for the programs. *See* Docket Nos. 2021-143-E & 2021-144-E, Order No. 2022-239(A), at pp. 27-29.

Second, Witness Grevatt expressed some concern that the Company had not conducted an analysis comparing the cost of the high efficiency gas equipment measures incentivized through this program with high efficiency electric alternatives. (Tr. at 181:3-6.) The Company currently offers electric HVAC rebate programs that provide rebates to customers replacing electric equipment with higher-efficiency electric equipment.[3] As proposed, the incentives under these programs are likewise "limited to gas for gas replacement." (Tr. at 60:25–61:2.) However, Witness Grevatt explained that if it turns out under this analysis that electric alternatives would provide customers greater savings, these proposed programs may incentivize investment in high efficiency gas furnaces that are not in customers' best interest. (Tr. at 180:20–181:3.) Indeed, Witness Shelton stated that the intent of the program was "to influence [customers'] decision-making process when they go to a buy a furnace of a water heater to buy more efficient equipment." (Tr. at 62:21-23.) As one example of an electric alternative that may prove more cost-effective, Witness Grevatt explained that "for many customers in South Carolina, if they're buying a new gas furnace, they're also buying a new electric air conditioner, which may, combined, cost them a lot more money to purchase and potentially to operate than a single high-efficiency heat pump that does both." (Tr. at 197:5-14.)

In light of these two concerns, Witness Grevatt recommended that the Commission reject the proposed gas equipment programs without prejudice and direct the Company to include the following analyses in support of any refiled program proposals: an analysis of

[3] *See* DESC, *Electric Furnace to Heat Pump Rebate*, https://www.dominionenergy.com/south-carolina/save-energy/heating-and-cooling-rebates/electric-furnace (providing that to be eligible for this rebate, customers must be replacing an older, all-electric furnace); *see also* DESC Heating and Cooling New Equipment Application, https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/south-carolina/save-energy/132021r3044-hvac-new-equipment-application-revised-1_25_21-fillable.pdf?la=en&rev=a59ea42e35bc41e7b20f9ec97a45c7b8 (noting that the Company's heating and cooling equipment program does not allow fuel switching).

market share of high efficiency gas equipment, some consideration of net-to-gross ratios, updated cost-effectiveness results based on net savings, and a lifecycle cost analysis comparing gas equipment to high-efficiency electric alternatives. (Tr. at 181:7-18.)

DESC Witness Herndon responded primarily to Witness Grevatt's concerns relating to the program's cost-effectiveness testing, emphasizing that the recommended market share analysis was not necessary to the development of the program. (Tr. at 34.3:4-8.) Witness Herndon testified that because these high efficiency gas equipment programs are new to the company's customers, gross and net savings were considered to be roughly equivalent for the initial cost-effectiveness projections. (Tr. at 31:21–32:25.) Despite the programs' newness, Witness Herndon also stated that the Company's "keen understanding of its customer base negated the need to conduct costly primary market research on the penetration of high-efficiency equipment within DESC's market." (Tr. at 30:20-23.) Witness Herndon further noted that the proposed equipment measures were well accepted in the industry and that the Company would calculate the actual net savings values for each program through its Evaluation, Measurement, & Verification ("EM&V") process using actual data from the operating program. (Tr. at 32:7-9.) In response to Witness Grevatt's concerns that the program may not be cost-effective if net savings were accounted for, Witness Herndon ran a sensitivity analysis assuming a net-to-gross ratio of 0.8%, reducing the gross savings by 20%, and found that the programs continued to pass the TRC. (Tr. at 34.7:9-19.) This estimation was not based on any actual data about free-ridership levels in the Company's territory. (Tr. at 57:19-23.)

On surrebuttal, Witness Grevatt testified that neither Witness Herndon's explanation nor additional sensitivity analysis allayed his concerns regarding the cost-effectiveness of the programs. Witness Grevatt again emphasized that using gross savings rather than an informed estimate of net savings is contrary to well-established industry practice, quoting the *California Standard Practice Manual: Economic Analysis of Demand-side Programs and Projects*, which provides that "avoided supply costs should be calculated using net program savings, savings net of changes in energy use that would have happened in the absence of the program." (Tr. at 187.3:3-10.) Witness Grevatt also pointed out that the fact that the programs are new for DESC customers does not in any way address the question of whether those customers are *already* choosing high efficiency equipment (the level of "free ridership") (Tr. at 187.3:8-10.) Indeed, in response to Commissioner questions Witness Herndon seemed well aware that customers may already be choosing the high efficiency equipment, noting that the goal of utility programs is to "influenc[e] the market beyond the folks that are already doing it…. There's already people that are out there that are choosing some of these things, but the idea of these programs is not everyone is choosing it." (Tr. at 113:10-17.) Witness Grevatt was not persuaded by the sensitivity analysis given that there was no basis for 0.8 net-to-gross value used in the sensitivity, it was unclear whether that assumption was applied at the program level or only for certain measures, and Witness Herndon does not provide the actual cost-effectiveness results. (Tr. at 187.2:12-20.) Witness Grevatt also noted that an after-the-fact EM&V process does not substitute for the need to use an *informed estimate* of free ridership, and thus net savings on the front end. (Tr. at 187.3:11-14.)

In response to Commissioner questions, Witness Grevatt explained why it was so important to conduct a complete, industry standard, cost-effectiveness analysis on the front end, noting that the intent of his recommendations is "to ensure that [] when a program is supported by the Commission it can deliver the results that it's promising and provide benefits to the customers." (Tr. at 191:24–192:3.) He also highlighted the risk of what can happen if a utility does not "do the due diligence upfront" to make sure a program is defensible, noting that if it turns out there are a lot more free riders than anticipated and a program turns out not to be cost-effective, "the parties in the world—and there are a lot of them—who oppose energy efficiency will say, 'See? We told you. This was a bad investment; you shouldn't do it,' and energy efficiency gets a black eye." (Tr. at 191:10-23.) He added "I hope it's clear that [] in my 30-year career in this field I have advocated for energy-efficiency programs." (Tr. at 190:19-22.)

For this reason, and to ensure "the defensibility of the programs and [a] prudent use of ratepayer funds," Witness Grevatt maintained that the Company should gather more information to develop an informed cost-effectiveness estimate, noting that the Company's application lacked any "consideration of what customers are deciding to do and deciding to purchase in the absence of a program." (Tr. at 190:13-18, 204:4-10.) In contrast to the approach in this proceeding, the Company has on the electric side, and specifically for its ongoing Market Potential Study, "acknowledged that doing research into what the baseline is matters when you're considering what the potential savings are." (Tr. at 203:6-14.)

DESC Witness Shelton responded to Witness Grevatt's recommendation that the Company compare the costs of high efficiency gas equipment with electric alternatives, asserting that the intent of the proposed equipment programs were "to replace inefficient natural gas equipment with more efficient natural gas equipment—something that is currently not being offered in [DESC's] service territory." (Tr. at 22.7:20 – 22.8:3.) She further stated that it would not be a prudent use of ratepayer funds to conduct an analysis that "would not directly benefit customers. (Tr. at 22.8:7-11.)

In his surrebuttal testimony, Witness Grevatt explained that his recommended analysis "would indeed benefit customers by indicating whether it would be in their long-term interest to invest in gas or electric heating and cooling equipment" and further that Witness Shelton's suggestions that it is inappropriate to replace inefficient equipment with anything other than efficient gas equipment is "clearly incorrect if electric alternative would provide customers with greater cost savings." (Tr. at 187.8:20 – 187.9:3.) Witness Grevatt thus urged the Commission to ensure that this program was informed by a comparison of gas and electric savings, noting that "from a regulatory perspective, it makes sense—where statutes allow you to—for the Commission to consider the best interests of the customers, regardless of which fuel is being regulated." (Tr. at 196:15-18.) He also noted that, "[i]f I was a utility customer and I had gas and electricity, and my utility provider was steering me towards high efficiency, I would want them to give me information that would let me know what is actually in my best interests." (Tr. at 196:22–197:1.)

Regarding the purported cost of the study, Witness Grevatt provided some context at the hearing:

> [W]hen [] the company [] say[s], "Well, this is going to be a costly study. It's going to — you know, it's an imprudent expenditure for ratepayers, to charge them with the cost of this study"—and in this case I'm speaking specifically about analysis of, say, gas versus electric equipment cost, lifecycle cost—Energy Futures Group[4] did a comparison for testimony that I filed in Nevada for a Southwest Gas case, where the gas company was proposing a new program for high-efficiency furnaces, and I think that analysis, that we

[4] CCL/SACE Witness Grevatt is employed by the consulting firm, Energy Futures Group.

> did, cost about $6,000. So in the scale of programs that are hundreds of thousands or millions of dollars, that seems like a wise investment to me, and a pretty modest one.

(Tr. at 194:3-16.)

<u>Commission Conclusions</u>

Overall, the Commission is pleased that DESC is pursuing a DSM program for gas customers. Gas customers, like electric, should be given the opportunity to reduce their electricity usage and achieve long-term bill savings. We are also persuaded by the testimony of CCL/SACE Witness Grevatt that it is best practice for dual-fuel utilities such as DESC to minimize administrative costs by streamlining offerings for gas and electric customers. The proposed EnergyWise Savings Store program is a prime example of this efficiency, and we therefore approve the EnergyWise Savings Store proposal.. Subject to the requirements set out below, we also approve the proposed Neighborhood Energy Efficiency Program ("NEEP"). However, we reject the Residential and Commercial Equipment Rebate Programs without prejudice to re-file with supplemental analyses.

Neighborhood Energy Efficiency Program ("NEEP")

The Company's proposal to leverage its existing implementation contractor and administrative framework to expand NEEP to gas households will benefit low-income households, and, as such, the Commission approves the NEEP program as proposed. However, the Commission is concerned that the Company has not evaluated whether it would be cost effective to offer dual-fuel saving measures through NEEP that save both gas and electricity, such as insulation and air sealing. According to Witness Grevatt, who has extensive experience developing and managing gas efficiency programs and was qualified as an expert in natural gas EE programs and programs for low-income households, expanding into gas efficiency programs provides an opportunity to offer dual-fuel savings measures, which in turn can improve the cost-effectiveness of existing measures and programs. Indeed, the Company already appears to recognize the dual-fuel savings benefits of certain measures by prorating costs between gas and electric programs but has not yet considered how this understanding could improve program cost effectiveness and expand benefits to its customers.

Accordingly, the Commission directs the Company to conduct further analysis of opportunities to cost-effectively implement comprehensive measures in NEEP on a dual-fuel gas and electric basis and to file the results of this analysis with the Commission in 180 days, along with any proposed expansion of dual-fuel measures and programs. Because this directive merely requires additional information from the Company, it should not delay implementation of the program as proposed. As part of this required analysis, the Commission encourages the Company to consider whether dual-fuel offerings could improve the cost-effectiveness of other existing programs, such as the Home Energy Check-up program currently offered to electric customers, and to draw on the expertise of those such as Witness Grevatt in the EE EE Advisory Group.

The Commission appreciates the concerns raised by DESC Witness Shelton with respect to offering comprehensive dual-fuel savings measures to the low-income households served by NEEP. However, we agree with Witness Grevatt that the considerable challenges in providing comprehensive EE programs to low-income households are not a reason to automatically deny those households the potentially significant savings benefits of dual-fuel savings measures. We also emphasize that our current directive is merely for DESC to take the first step of evaluating whether comprehensive dual-fuel measures could be offered through NEEP.

Residential and Commercial Equipment Rebate Programs

Regarding the Residential and Commercial Equipment Rebate Programs, the Commission is persuaded by CCL/SACE Witness Grevatt that the Equipment Rebate Program must be denied without prejudice. Fundamentally, it appears that the Company did not evaluate, or even consider, key data necessary to developing a defensible EE program that maximizes benefits to customers. More specifically, there are two flaws which must be addressed in any re-filed application for the Company's proposed equipment programs.

First, it appears that contrary to industry standard practice, the Company has based its cost-effectiveness analysis for these programs on gross savings, rather than estimating the "net" savings the program would cause to occur. As such, the Company may be taking credit for savings from "free-riders"—those customers who would purchase high efficiency equipment even in the absence of an efficiency program—in its cost-effectiveness testing. The Commission agrees that this assumption is especially suspect given the national data Witness Grevatt highlighted in testimony which indicates some customers may be purchasing high efficiency gas equipment without an incentive. Further, the Commission is unpersuaded by the Company's claim that gross savings are appropriate to use for new programs. The fact that the programs are new for DESC customers does not in any way address the question of whether those customers are *already* choosing high efficiency equipment (the level of "free ridership"). In addition, while DESC Witness Herndon is correct that net savings will be confirmed later, through the EM&V process, that does not substitute for the need to use an *informed estimate* of free ridership, and thus net savings on the front end, that is based on an analysis of market share of high efficiency gas equipment. Contrary to ORS and DESC's claims, the fact that gas EE programs have been offered by numerous utilities across the country means that DESC had a wide variety of data available to it from other utilities' programs that it could have used, in combination with market data from its own territory, to estimate free ridership, but it failed to do so.

Second, the Commission agrees with Witness Grevatt that the Company should evaluate whether high efficiency electric alternatives would provide customers with greater benefits than the high efficiency gas equipment incentivized in this program. If it turns out under this analysis that electric alternatives would provide customers with greater savings, then these programs as proposed may inadvertently encourage customers to invest in equipment that is not in their best interest. DESC witnesses repeatedly emphasized at the hearing that such an analysis would be inappropriate because the intent of the program was to replace *gas* equipment with high efficiency *gas* equipment. However, the Commission reminds the Company that the intent of any DSM program should *not* be based on the equipment or fuel but rather to *maximize the benefits to DESC's customers*. DESC, as a dual-fuel utility, is uniquely positioned to consider whether gas or electric appliances will provide the greatest benefits to its customers. Here, in particular, it seems feasible that it may be more beneficial for customers to upgrade to a single high-efficiency heat pump than to buy a new gas furnace and electric air conditioner; if that is the case, DESC should design programs that incentivize installation of high efficiency heat pumps rather than locking customers into gas-for-gas upgrades.

Our rejection of the Company's proposed equipment rebate programs should not in any way be perceived as opposition to energy efficiency. To the contrary, the Commission's rejection of the programs *without prejudice* is intended to ensure that the Commission-approved EE programs will deliver results and benefit customers. We encourage the Company to re-file these program applications as supplemented with Witness Grevatt's recommended analyses.

V. ORDERING PARAGRAPHS

NOW, THEREFORE, IT IS HEREBY ORDERED THAT:

1. The natural gas EnergyWise Store Program is approved as filed.
2. The natural gas NEEP program is approved as filed.
    a. The Company shall conduct further analysis of opportunities to cost-effectively implement comprehensive measures in NEEP on a dual-fuel gas and electric basis and to file the results of this analysis with the Commission within 180 days of this Order.
3. The natural gas Residential High Efficiency Gas Equipment Rebates and Commercial High Efficiency Gas Equipment Rebates programs are rejected without prejudice.
    a. Any re-filed program proposal shall include the following information:
        i. Findings of market research to determine a baseline for current market share of any proposed high efficiency gas equipment;
        ii. Estimated net-to-gross ratios for any proposed high efficiency gas equipment and updated cost-effectiveness results based on net savings;

iii. Estimated cost savings from the proposed program compared with estimated cost savings if its customers were to switch from gas to available high-efficiency electric alternatives, such as heat pumps.

BY ORDER OF THE COMMISSION:

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Justin T. Williams, Chairman
Public Service Commission of
South Carolina

CERTIFICATE OF SERVICE

I hereby certify that the parties listed below have been served via first class U.S. Mail or electronic mail with a copy of the *Partial Proposed Order* on behalf of the South Carolina Coastal Conservation League and the Southern Alliance for Clean Energy.

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This 1st day of June, 2022.
/s/ Kate Lee Mixson